(No Model.)

J. B. DUKE.

APPARATUS FOR WAXING PAPER.

No. 286,402. Patented Oct. 9, 1883.

Fig. 1.

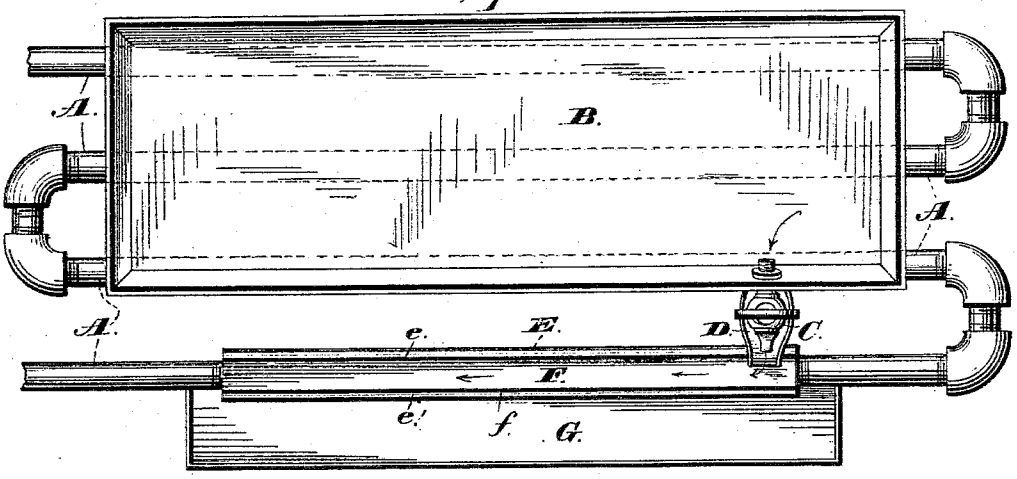


Fig. 2.

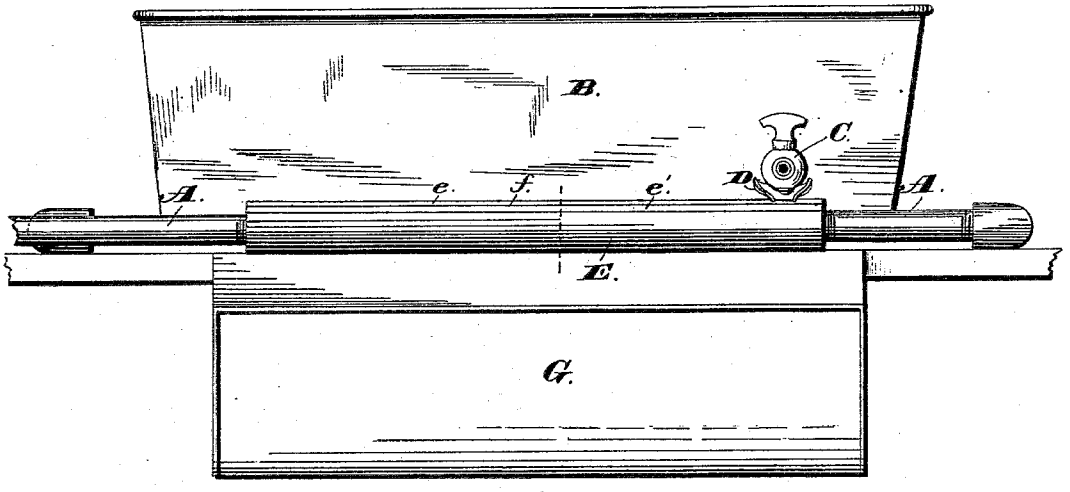


Fig. 3.

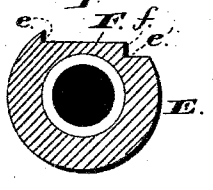
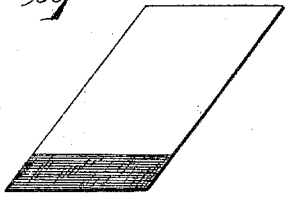


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR WAXING PAPER.

SPECIFICATION forming part of Letters Patent No. 286,402, dated October 9, 1883.

Application filed September 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. DUKE, a citizen of the United States, residing at Durham, in the county of Durham and State of North Carolina, have invented new and useful Improvements in Apparatus for Waxing Paper, of which the following is a specification.

My invention relates to the manufacture of cigarette-wrappers, which are made of rice-paper, and either put up in books or wrapped upon the tobacco filler and sold as part of the manufactured cigarette.

It is well known that owing to the extreme lightness and delicacy of this paper it quickly becomes disintegrated and broken down by the action of the saliva, causing great annoyance to the smoker and a waste of the tobacco, which is released by the dissolution of the wrapper and thrown away. To obviate this difficulty the end of the cigarette-wrapper has been coated with some insoluble and neutral substance, like wax or paraffine, which are applied in a melted condition; and it is the purpose of my present invention to provide an apparatus whereby such a coating may be quickly and easily applied to the paper with the necessary accuracy, and with the least expenditure possible of the coating material.

To this end my invention consists in a melting-vessel adapted to contain liquid paraffine or wax, and provided with a suitable cock and conveyer, by which the melted contents may be gradually diffused upon a heated metallic surface, to which the ends of the wrappers or the edges of the sheet from which they are cut may be applied, whereby they receive a thin coating of the hot melted material.

Referring to the drawings, Figure 1 is a plan view, showing an apparatus embodying my invention. Fig. 2 is an elevation of the same. Fig. 3 is a transverse section of Fig. 2. Fig. 4 is a view of a cigarette-wrapper coated upon one end.

A in said drawings designates a steam-coil or other suitable heating device, steam being, in some respects, preferable, as the degree of heat therefrom is constant, and there is no danger of ignition of the melted paraffine or wax by too high a temperature.

Upon the coil or other heating device A is placed a vessel, B, made of any suitable material—such as tin—and provided with an outlet cock, C, near its bottom line, and arranged beneath the same is a trough or conveyer, D, of any suitable length, the function thereof being as follows:

Upon one branch of the coil A, running in front of the vessel B and parallel with it, is mounted a sleeve, E, having a flat horizontal upper face, F, bounded upon the rear side by a rib, *e*, which rises above the surface, and upon the opposite side by a channel, *e'*, cut down below the said surface, leaving an angular edge, *f*, which is parallel to the rib *e*. The conveyer D has its discharge end arranged directly over the surface F at any suitable point, and by opening the cock C a limited quantity of the melted paraffine or other material is allowed to flow from the vessel B through the trough D, whence it is discharged upon the heated surface F. Here it speedily becomes diffused equally over the whole of the flat face, upon which it lies in an extremely thin stratum. The cigarette-wrappers are then laid as to their end portions upon the flat face F, the rib *e* serving as a gage to limit the length of the treated portion and insure equality throughout the whole number treated. The edge *f* also has a similar function, and serves to give a clear line of demarcation between the coated end and the body of the wrapper. The wrapper is laid upon and instantly removed from the sleeve E, and the coating given to its end is then allowed to cool and solidify, which it does immediately. As the melted paraffine or other material is diffused upon the heated surface F in an extremely thin stratum, no more adheres to the wrapper than is required to give the coating, and waste of material, as well as undue thickness of the end of the wrapper, is avoided. As any excess of melted material flows off over the surface of the sleeve, a drip-cup, G, is placed below it to catch the droppings.

If desired, the wrappers may be coated upon each end, and instead of coating each separately, a sheet may be coated upon one edge at a single operation, and then cut up into separate wrappers.

It is evident that instead of the sleeve E mounted upon and deriving its heat from a branch of the coil A, I may use any other

form of device, such—for example, as a metal plate, heated in any suitable manner. Moreover, the melting-vessel B may be removed to any distance within practical limits from the sleeve or other device substituted for it, and the conductor C may be lengthened correspondingly.

In other ways, also, the apparatus may be widely varied in construction and arrangement of parts without departing from my invention.

It is evident, also, that when the sleeve E is used it is not necessary to place it parallel with the melting-vessel. When the contents of the latter are delivered upon one end of the diffusing-surface, it is well to give the latter a slight inclination, in order that the melted material may flow toward the other end.

Having thus described my invention, what I claim is—

1. In an apparatus for coating the tips of cigarette-wrappers, a melting-vessel provided with a suitable outlet-cock, a diffusing-surface arranged to receive melted paraffine or other material discharged from said vessel, and means for supplying heat to both, substantially as described.

2. The combination, with the melting-vessel having an outlet-cock, of a diffusing-surface provided with a gaging rib or edge, to limit and equalize the length of the tip to be coated, substantially as described.

3. The combination, with a heating-coil, of a melting-vessel placed thereon, a sleeve mounted upon a branch from said coil and arranged near the melting-vessel, said sleeve having a flat diffusing-surface, a cock in the wall of the melting-pan, and means for conveying the melted material therefrom to the diffusing-surface, substantially as described.

4. The combination, with the diffusing-surface, of a rear edge or rib projecting above the same, and an angular edge opposite to and parallel with said rib, the space between being equal to the length of the wrapper-tip to be coated, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JAMES B. DUKE.

Witnesses:
GEO. W. WATTS,
JAMES W. SNEED.